

**ONLINE APPLICATION TO PROMOTE SECOND HAND TEXTBOOK
AMONG STUDENTS**

FARAJ S. F. EDHIBA

**COLLEGE OF ARTS AND SCIENCES
UNIVERSITI UTARA MALAYSIA**

2008

TK
5105-888
E23n
2008



PUSAT PENGAJIAN SISWAZAH
(Centre For Graduate Studies)
Universiti Utara Malaysia

PERAKUAN KERJA KERTAS PROJEK
(Certificate of Project Paper)

Saya, yang bertandatangan, memperakukan bahawa
(I, the undersigned, certify that)

FARAJ S.F. EDHIBA

calon untuk Ijazah
(candidate for the degree of) **MSc. (Information Technology)**

telah mengemukakan kertas projek yang bertajuk
(has presented his/her project paper of the following title)

ONLINE APPLICATION TO PROMOTE SECOND
HAND TEXTBOOK AMONG STUDENTS

seperti yang tercatat di muka surat tajuk dan kulit kertas projek
(as it appears on the title page and front cover of project paper)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan
dan meliputi bidang ilmu dengan memuaskan.
(that the project paper acceptable in form and content, and that a satisfactory
knowledge of the field is covered by the project paper).

Nama Penyelia Utama
(Name of Main Supervisor): **ASSOC. PROF. DR. WAN ROZAINI SHEIKH OSMAN**

Tandatangan
(Signature)

: Rozaini

Tarikh
(Date)

: 16/4/08

PERMISSION TO USE

In presenting this thesis of the requirements for a Master of Science in Information and Communication Technology (MSc. IT) from Universiti Utara Malaysia, I agree that the University library may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor or in their absence, by the Dean of Graduate School. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Request for permission to copy or make other use of materials in this thesis, in whole or in part, should be addressed to:

Dean of Graduate School
Universiti Utara Malaysia
06010 Sintok
Kedah Darul Aman
Malaysia

ABSTRACT

The desire to get hold of books via the Internet has affected the professional lives of librarians and book dealers, and has radically changed the face of both personal and institutions collectively. Day-to-day increasing tuitions and the decreasing availability of financial aid, the high cost of textbooks has become a serious concern for most of the students. Price for new college textbooks has risen day in day out. In this research, the issue to be solved is basically how to dispose used textbooks for students who no longer needed them, and where to obtain used textbooks for those who needed them at affordable price and with ease. Thus, the study will be focuses on the design of an application system of promotion used book in the context of UUM.

ACKNOWLEDGEMENT

Praise and gratitude to Allah, the Almighty, for bestowing me with great strength, patience, and courage in completing this project.

My gratefulness to my supportive and helpful supervisor, Assoc Prof. Dr. Wan Rozaini Sheik Osman for assessing and guiding me in the completion of this research. With all truthfulness, without her, the project would not have been a complete one. She has always been my source of motivation and guidance. I am truly grateful for her continual support and cooperation in assisting me all the way through the semester.

I would like to present my thanks to my father, my mother and all my family who has always been there for me. Finally, I would like to express my appreciations to all my friends, colleagues, FTM staff, and everyone who has helped me in this journey. My thanks goes to Madam Haslina Mohd for her help in the report.

TABLE OF CONTENT

PERMISSION TO USE	i
ABSTRACT	ii
ACKNOWLEDGEMENT	iii
TABLE OF CONTENT	iv
LIST OF FIGURES	viii
LIST OF ABBREVIATION	ix

CHAPTER 1: INTRODUCTION

1.1	Background	1
1.2	Problem Statement	3
1.3	Objective of the study	4
1.4	Scope of the study	5
1.5	Significance of the study	5
1.6	Report organization	6
1.7	Summary	

CHAPTER 2: LITERATURE REVIEW

2.1	Introduction	7
2.2	Web Application definition	8
2.3	Review of related Application	10
2.3.1	Ant Swarm Reinforcement Learning for Formulating Online Promotion Strategies	11
2.3.2	UHC Online AA System Department of Human Resources	12
2.4	Second Hand and Antiquarian books on the internet	12
2.4.1	Bookoff for buying and selling second-hand books in Japan	13
2.4.2	Nihon-no-Furuhonya feom Japan	13
2.4.3	Book Goblin from New Zealand	14
2.4.4	Biblion.co.uk in UK	14

2.5	Related Findings	14
2.4.1	The High Cost of Textbooks; Options & Alternative for Students	14
2.4.2	Student Information Sources and Book Buying Behavior	15
2.4.3	Potential for Online Grocery Shopping in Urban Area of Vienna	16
2.4.4	ANANSI.CA: Selling Books Online	16
2.4.5	Promoting the Quality of Online Courses	16
2.6	Online Book Promoting	17
2.6.1	Buy used from a bookstore	18
2.6.2	Buy used directly from students	18
2.6.3	Buy from independent book swap Web sites or e-bay	18
2.7	Web Application Structure	19
2.8	Tools used to build web application	19
2.9	Design web application	19
2.8.1	General Design Consideration	20
2.10	Summary	20

CHAPTER 3: RESEARCH METHODOLOGY

3.1	Introduction	22
3.2	Overview of System Development Life Cycle	23
3.2.1	Project Planning	25
3.2.2	Requirements definition	26
3.2.2.1	Interviewing	26
3.2.2.2	Observation	27
3.2.3	Design a Prototype	27
3.2.3.1	Unified Modeling Language (UML)	28
3.2.4	System Testing	29
3.3	Conclusion	30
3.4	Summary	30

CHAPTER 4: ANALYSIS DESIGN AND DEVELOP A PROTOTYPE

4.1	Introduction	32
-----	--------------	----

4.2	Requirements Analysis	32
4.3	Tools for design requirements	33
4.3.1	Rational Rose 2000	33
4.3.2	Use case Diagram	34
4.4	Sequence Diagram	36
4.4.1	Login	37
4.4.2	Register user	38
4.4.3	Manage Book	
	A—1: Add Book	39
	A—2: Edit Book	40
	A—3: Update Book	41
4.4.4	Buy Book	42
4.4.5	Search Book	43
4.4.6	View Report	44
4.4.7	Manage User	
	A—1: Add User	45
	A—2: Edit User	46
	A—3: Delete User	47
4.5	Class Diagram	44
4.6	Tools for Design Web pages	48
4.6.1	Scripting language	48
4.6.2	MySQL	49
4.6.3	Adobe Photoshop	49
4.6.4	Macromedia Flash	50
4.7	Guide line in design a web page	50
4.8	Design Prototype	52
4.8.1	Login	52
4.8.2	Manage Book	53
4.8.3	Add Book	54
4.8.4	Edit Book	55
4.8.5	Buy Book	56
4.8.6	Search Book	57
4.8.7	View Report	58
4.8.8	Manage user	59

4.8.9	Add user	60
4.8.10	Edit user	61
4.9	Conclusion	61

CHAPTER 5: USABILITY TESTING

5.1	Introduction	62
5.2	Evaluation technologies	63
5.2.1	User Involvement	64
5.3	Features of the system	65
5.4	Summary of the chapter	65

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1	Introduction	66
6.2	Conclusion	67
6.3	Problems and limitation	67
6.4	Future work	68

REFERENCES

APPENDIX A:	USE CASE SPECIFICATIONS
APPENDIX B:	SOURCE CODE

LIST OF FIGURES

Figure 3.1: SDLC Phases Hoffer et al. (1999)	26
Figure 4.1: Use case diagram for students and books	37
Figure 4.2: Sequence diagram for login	38
Figure 4.3: Sequence diagram for register user	39
Figure 4.4: Sequence diagram for manage book	40
Figure 4.5: Sequence diagram for buy book	41
Figure 4.6: Sequence diagram for search book	42
Figure 4.7: Sequence diagram for view report	43
Figure 4.8: Sequence diagram for manage user	44
Figure 4.9: Login interface	48
Figure 4.10: Manage Book interface	49
Figure 4.11: Add Book interface	50
Figure 4.12: Edit Book interface	51
Figure 4.13: Buy Book interface	52
Figure 4.14: Search Book interface	53
Figure 4.15: View report interface	54
Figure 4.16: Manage user interface	55
Figure 4.17: Add user interface	56
Figure 4.18: Edit user interface	57

LIST OF ABBREVIATION

UUM	University Utara Malaysia
EWAM	Extended Web Assessment Method
B2C	Business-to-Consumer
HTML	HyperText Markup Language
ASP	Active Server Page
FSW	Female Sex Worker
PIN	Ppersonal Identification Number
UCHC	University of Connecticut Health Center
AA	Assignment Authorization
CD	Compact Disc
DVD	Digital Video Display
CGI	Common gateway interface
WWW	World Wide Web
SDLC	System Development Life Cycle
IS	Information System
OOSAD	Object-oriented System Analysis and Design
ERD	Entity Relationship Diagram
DBMS	Database Management System
DB	Database
UML	Unified Modeling Language
ICT	Information and Communication Technology
IIS	Internet Information Service
HTTP	HyperText Terminal Protocol

CHAPTER 1

INTRODUCTION

This chapter presents a brief clarification of the research background that mainly entails the selling and buying of second hand books in UUM. The advantages deriving from such transaction are brought to light. Moreover, the problem statement, the objectives, the scope and the significance of the study were established.

1.1 Background

The desire to get hold of books via the Internet has, after all, profoundly affected the professional lives of librarians and book dealers, and has radically changed the face of both personal and institutions collectively. From the students' standpoint, they are doing more shopping online thus encouraging capital growth and ongoing popularity of online bookseller and book auction sites. Leimstoll et al. (2005) have adopted the Extended Web Assessment Method (EWAM) as an estimation tool specifically created for the assessment of electronic commerce applications. As this said, their study focuses on consumer perspectives and the specific features of the Internet as a medium. Moreover, the EWAM tool is used for comparative analysis amongst

The contents of
the thesis is for
internal user
only

6.4 Future work

In a short, the proposed prototype system is a viable solution to be implemented promotion used book system for developing web-based application. The research has not yet been explored other web-based gadget with HTTP browser, which can be able to make it a comprehensive proposal. Experimentation and evaluation of the prototype using real connection cannot be done due to limited financial budget.

Promotion used book web-based application has the following features that will benefit the users:

1. Provides direct, simple access to the focused valuable content via few keystrokes or text entry only.
2. Information regarding this web-based is trimmed page to page navigation down to a minimum and hyperlink buttons are used to navigate back.
3. Reduces the amount of vertical scrolling by simplifying the text to display.

Finally, web-based promotion used book as a meaningful application that, can turn the conventional information retrieval into simplest web-based approach. User can utilize this application via client/server network or internet. The development of promotion used book system prototype indicates the change of application development. This will lead to extensive improvement of promotion used book application that positively impacts the future technology.

REFERENCES

- Aaron, S. (1998). The new business of self publishing. Book marketing on Amazon.com.
- Antelman & Mendlzon (1998). *Design dynamic webpages*. New York : Winston.
- Bednao, D. (2004). Project Management Methodology of object-oriented software development, Dept. of Information System, FIT.
- Bodoff, S. (2007). *Introduction to Web Applications*, retrieved 9/10/2007 from <http://java.sun.com/j2ee/1.3/docs/tutorial/doc/WebApp.html>
- Bryson, M. & de Castell, S. (1996). Learning to make a difference: *Gender, new technologies, and in/equity*. *Mind, Culture and Activity*, 2(1), 3-21.
- Baumgartner, J. (2001), *The Complete Guide to Managing Traditional Brainstorming Events*. New Zealand: McGraw Hill.
- Berst, J. (1997a). How Weblications Are Changing the Internet. ZDNet Anchor Desk http://www.zdnet.com/anchordesk/story/story_1020.html
- Bentley D.(1999). *Analysis of Information Management System (IMS)*. Retrieved 30/11/2007 from http://www.umsl.edu/~sauter/analysis/IMS_example.html
- Bennett, S. (2006). *Analysis of a Laboratory Information Management System (LIMS)*. Retrieved 30/7/2007 from http://www.umsl.edu/~sauter/analysis/LIMS_example.html
- CALPIRG (2004). How the current practices of the textbooks industry drive up the cost of college textbooks, CALPIRG Education Fund.

- Choo, C. W., Detlor, B. and Turnbull, D. (2000). *Web Work: Information Seeking and Knowledge Work on the World Wide Web*. Dordrecht, NL: Kluwer Academic Publishers.
- Chin, J. P., Norman, K. L., & Shneiderman, B. (1997). *Subjective user evaluation of CF PASCAL programming tools. Technical Report (CAR-TR-304)*. College Park, MD: Human-Computer Interaction, Center for Automation Research, University of Maryland.
- Chiai Kim Heok, s. e. h. & Teo Kah Choo (2004). Database system. Singapore: Prentice Hall.
- Clary B, Netscape Communications (2001). *Introduction to Web Applications, Some thoughts on Web Application Development*. Retrieved 8/12/2007 from <http://devedge-temp.mozilla.org/viewsource/2001/web-applications/>
- Colafigi. (2001). *Evaluating Usability of Human Computer Interfaces: a Practical Methods*. UK: Ellies Horwood Ltd Chichester.
- Dennis C., Patel, T., King, T., and Hilton, J. (2000). *Qualitative Studies of Shoppers' Motivations, 9th International Conference on Recent Advances in Retailing and Services Science*. Germany: EIRASS, Heidelberg.
- David, F. D. (2004). *Perceived Usefulness, Perceived Ease of Use and End-User Acceptance of Information technology*. London: Prentice Hall.
- Degan, A. D. (2004). *Web-based Application Development for Small Business*, Technical White Paper Version 1.2. California: McGraw Hill.
- Del, A. (2004). *Service oriented web application*. Retrieved 12/1/2008 from <http://www.sun.com>
- Deri (1999). The advantage of web application. Retrieved 10/2/2008 from <http://www.webopedia.com>

- Ghezzi, E. A., Robert, N. & Wilson, H. B. (1991). *Fundamentals of Software Engineering*. New Zealand: Prentice-Hall.
- Harper, B., Slaughter, L., & Norman, K. (1997). Questionnaire administration via the WWW: *A validation and reliability study for a user satisfaction questionnaire*.
- Hendry (1990). *Database design and information system*. Texas: A&M University
- Hilton, M. D. (1995). *Fundamental of a IMS*. California: Osborne McGraw Hill.
- Holcomb, R & Tharp, A. (1991). "Users, a software usability model and product evaluation", *Interacting with computers*, Butterworth-Heinemann, Oxford, UK, Vol 3(2) pp. 155-166.
- Hoffer, J. A., George, J. F. & Valacich, J. S. (1999). *Modern Systems Analysis and Design* (2nd Edition). United Kingdom: Addison Wesley Longman.
- Ibm.com. (2007). *Paper Prototype*. Retrieved 25/11/2007 from <http://www.ibm.com>
- JETRO (2001). Report on Japan Animation Industry Trends, Japanese Economy Division. *Japan Economic Monthly*.
- Knuth (2002), web is literate programming.
- Kerner, S. M (2006). *Is PHP The Cure For The 'Broken' Web?*, internetnews.com, 13 September 7.
- Koprowski. (2002) and Steinlechner (2001). *Design IMS with microarray*. Texas: A&M University.
- Kothari, C.R. (1995). *Research Methodology, Methods and Techniques*. Delhi: Wiley Eastern Limited.
- Leimstoll & Liberty, J. (2005). *Beginning Object-Oriented Analysis and Design*. Birmingham: Wrox Press Ltd.

- Lynch, P. (2004). *A Guidelines to Design a Web Page*. Canada: Wrox Press.
- MacDonald, A. (2003). *Selling books online*, Dissertation for mater of publication in the faculty of arts and social sciences, B.A., Acadia University.
- Mason, M. (2001). "A web-based Electronic Book (eBook) for Fluid Mechanics," ASEE Annual Conf. Proc., Salt Lake City, UT.
- Moreover, D. (1999). *Advantages of Web-Based Application Development*. New York: ACM Press.
- Navathe, E. A. (2007). *Fundamentals of Database Systems: Data Modeling Using the Entity-Relationship (ER) Data Model*. New York: Prentice Hall.
- Nielsen, J. & Landauer, T. (1993). *A mathematical model of the Finding of usability problems*. Netherlands: Amsterdam.
- Nielsen, J. (1994). *Scenarios in discount usability engineering*. Envisioning work and Technology. Book under preparation.
- Nielsen, J. & Landauer, T. (2003). *A mathematical model of the finding of usability problems*. In ACM INTERCHI. Amsterdam, The Netherlands, April. 206-213.
- Norman, D. A. (2000). The Rise of Weblications: Keynote address presented at the User Experience World Tour. November 17, 2000, Chicago. IL
- Pacslabs.com. *Information Management Systems*. Retrieved 20/11/2007 from <http://www.pacslabs.com>
- Patric, L. (2004). *A Guidelines to Design a Web Page*. Canada: Wrox Press.
- Paperprototype.com. Design using Paper Prototyping. Retrieved 27/12/2007 from <http://www.paperprototype.com>
- Porter, P (2006). Graduate School of international corporation strategy Hitotsubashi University.

- Porter, D. (2003). An online newsletter for publishers, authors, book lovers and booksellers Vo. 6, No. 3.
- Ramsay, M. & Johnson, G (1999). *Evaluating usability of human computer interfaces: a practical method*, Ellis Horwood Ltd., Chichester, UK.
- Robert, A. G., Risen, D. A & Rose, C. W. (1997). *ACM SIGDA*. Newsletter 7 (1). New York: ACM Press.
- Ramsay, M. & Nielsen, J. (2000). *WAP Usability*. Retrived 3/9/2007 from <http://www.useit.com/alertbox/20001210.html>.
- Reiven. (2007). *Advantages Importance and Implementation Plug-Ins*. California: Osborne McGraw Hill.
- Robert, W. H. (2000). *Distributed Computer Network and Microsoft SQL 2000 Server*. London: Prentice Hall.
- Raymond, M. J. (1995). *Management Information System A Study of Computer-based Information System*. Texas: A&M University.
- Reiven. (2007). *Advantages Importance and Implementation Plug-Ins*. California: Osborne McGraw Hill.
- Rubin, J. (1994). *Handbook of usability testing: how to plan, design and conduct effective tests*. Jhon Wiley & Sons.
- Schmitt. (2006). *Engaging a Rich Web Experience*. Greenwich: Manning Publications Co.
- selfpublishebooks.com. Five key issues have to be considered when promoting books online. Retrieved on 3rd February, 2008 from <http://www.selfpublishebooks.com>.
- Shneiderman, B. (1998). *Designing the User Interface: Strategies for Effective Human- computer Interaction* (3rd ed). MA: Addison Wesley.

- Shawn, M. (2007). *Paper Prototyping*. Retrieved 25/12/2007 from <http://www.alistapart.com/articles/paperprototyping>
- Spellman. (2002). *Database Independent Implementation and Programming Language*. New York: Prentice Hall.
- Steele, T. W., Laugier, A. & Falco, F. (1999). *The impact of IMS design and functionality on laboratory quality achievements*. Brazil: ACM Press.
- Sun.com. *Web application classifications*: Retrieved 12/1/2008 from <http://www.sun.com>
- Tuck, S. and Papert, S. (2004): Epistemological Pluralism; Styles And Voices Within The Computer Culture. *Journal of Women in Culture and Society*. 16(1); 128-157.
- Usabilitybok.org. *Methods: Rapid Prototype*. Retrieved 25/3/2008 from <http://www.usabilitybok.org/methods/p312?section=how-to>
- Ullman, L. (2003). *PHP and MySQL for Dynamic Web Sites* (1st Edition). London: Peachpit Press.
- Uwe, L. and Schubert, P. (2005). Outsourcing of ICT: *An Empirical Study in Swiss SMEs*; Institute for IS research, University of Koblenz-Landau, Germany.
- Vu Thi Thanh Huong (2006) *Policy and Measures to Promote ICT Application and Deployment for Business Development in Rural Areas in Vietnam*. (Project Proposal).
- Valacich, J. S., George, J. M. & Hoffer, J. A. (2004). *Essential of system analysis and design*, Prentice Hall, Upper Saddle River, NJ.
- Wood, L. (Ed.). (1998). *User Interface Design*. Boca Raton, FL: CRC Press.